

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A system for exposing a fluid to UV energy for treatment of the fluid, said system comprising:
 - a UV energy transmissive barrier;
 - a fluid passageway at least partially defined by ~~a~~an interior surface of said UV energy transmissive barrier;
 - at least one UV energy source positioned proximal an exterior surface of said UV energy transmissive barrier to transmit UV energy through said barrier and into said fluid passageway;
 - and
 - at least one UV energy sensor positioned proximal an exterior surface of said UV energy transmissive barrier to sense UV energy transmitted through said barrier by said source, said sensor being configured to detect a reduced amount of UV energy transmitted through said barrier.
2. (Original) The system of claim 1 wherein said fluid passageway is configured to accommodate fluid flow.
3. (Canceled)
4. (Canceled)
5. (Original) The system of claim 1 wherein said at least one UV energy source comprises an LED.
6. (Original) The system of claim 1 wherein said at least one UV energy source is positioned adjacent said barrier.
7. (Original) The system of claim 1 comprising a plurality of UV energy sources and a plurality of UV energy sensors, each of said plurality of UV energy sensors being positioned to sense UV energy transmitted through said barrier by at least one of said UV energy sources.

8. (Original) The system of claim 7 wherein said UV energy sources are positioned adjacent an external surface of said fluid passageway for sensing UV energy transmitted through said barrier.

9. (Original) The system of claim 7 wherein said UV energy sensors are positioned adjacent an external surface of said fluid passageway for sensing UV energy transmitted through said barrier.

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Canceled)

21. (New) The system of claim 1 wherein said UV energy transmissive barrier comprises a hollow conduit.

22. (New) The system of claim 21 wherein said hollow conduit comprises a pipe.

23. (New) The system of claim 21 wherein said fluid passageway is substantially round in cross-sectional shape.

24. (New) The system of claim 1, further comprising an outer enclosure and a space defined between said outer enclosure and said UV energy transmissive barrier.

25. (New) The system of claim 24, said source being positioned in said space defined between said outer enclosure and said UV energy transmissive barrier.

26. (New) The system of claim 25, comprising a plurality of sources positioned in said space defined between said outer enclosure and said UV energy transmissive barrier.
27. (New) The system of claim 24, said sensor being positioned in said space defined between said outer enclosure and said UV energy transmissive barrier.
28. (New) The system of claim 24, further comprising an array of UV energy sources in said space defined between said outer enclosure and said UV energy transmissive barrier.
29. (New) The system of claim 28, comprising a plurality of UV energy sensors provided among said UV energy sources in the UV energy source array.
30. (New) The system of claim 29, said UV energy sources and UV energy sensors being provided around an interior circumference of said outer enclosure.
31. (New) The system of claim 24, further comprising a source of cooling gas positioned to reduce heat generated in said space defined between said outer enclosure and said UV energy transmissive barrier.
32. (New) A system for exposing a fluid to UV energy for treatment of the fluid, said system comprising:
a UV energy transmissive barrier at least partially defining a fluid passageway;
an outer enclosure proximal said UV energy transmissive barrier, said outer enclosure and said UV energy transmissive barrier at least partially defining a space therebetween;
at least one UV energy source positioned in said space defined between said outer enclosure and said UV energy transmissive barrier; and
at least one UV energy sensor positioned in said space defined between said outer enclosure and said UV energy transmissive barrier, said sensor being configured to detect a reduced amount of UV energy transmitted through said barrier.
33. (New) The system of claim 32, further comprising an array of UV energy sources in said space defined between said outer enclosure and said UV energy transmissive barrier and a plurality of UV energy sensors provided among said UV energy sources in said array of UV energy sources.